IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

JANUARY 13, 2010

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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I N D E X

Wednesday, January 13, 2010

* * * * *

THE COURT: Ms. Xidis.

MS. XIDIS: Thank you, Your Honor.

CONTINUED CROSS-EXAMINATION

BY MS. XIDIS:

Q. Okay. Doctor, before our lunch break, we were talking about the comparison of some ICR data to data from the IRW.

And, Doctor, in your comparison of the IRW and ICR/TOC data, you did not do any analysis to determine whether the levels of TOC in the IRW were similar to those in other areas in the U.S. with concentrated poultry production, did you?

A. No, I did not.

Q. Okay. And in your comparison of DBP levels in IRW utilities with other Oklahoma utilities, you also did not do any analysis to determine whether poultry waste is applied in any other watersheds in Oklahoma, have you?

A. No.

Q. Okay. And, in fact, you don't know whether poultry waste is, in fact, applied in any of the other watersheds in Oklahoma; is that correct?

A. No.

Q. Okay. If you could please get out the folder that we -- that is labeled SOK5212. This is one of the exhibits you discussed with Mr. Jorgensen.

A. I'm afraid I've scrambled things up. Which one is it, please?

Q. It's T-1 from Dr. Teaf's report.

A. Oh, yes. I have it.

Q. Okay. Doctor, I'd like you to take a careful look at this table, and it doesn't say the word "violation" anywhere on it, does it?

A. I don't see "violation" on the table.

Q. Okay. And on the third line of the title, it says the word "exceedances"; is that correct?

A. Correct.

Q. Okay. And you were here for Dr. Teaf's testimony?

A. Yes.

Q. Okay. And during Dr. Teaf's testimony, didn't he explain the difference between exceedances and violations of the MCL for DBPs?

A. He explained that in his testimony, but in his expert report it was clear that he was trying to essentially say that an exceedance was a violation.

Q. Okay. But do you agree with me in his testimony in this court that he made a clear

differentiation between exceedances and violations?

A. I think based on the sum total of his testimony, that's what he understands now, yes, and that's what he told the court.

Q. Okay. Thank you. If you could now please look for table T-3, which was in a folder labeled SOK5214.

A. What does that look like, please? Sorry.

Q. That's all right. Can you see, it's got the --

A. Right. Got it.

Q. Okay. Doctor, you agree that trihalomethane-forming potential is a useful tool for water-treatment plants in assessing the condition of their water supplies; correct?

A. If it's applied properly, yes.

Q. Okay. And given the condition of the water supply in the IRW and the manner in which these utilities are treating their water, there is a potential for THMs to be formed; correct?

A. For some THMs to be formed?

Q. Yes.

A. Yes.

Q. And, in fact, at least some of these 18 utilities you've looked at THMs are, in fact, being

formed; correct?

A. THMs are formed, yes.

Q. And in your opinion as a water-treatment professional, that is not a good thing; right?

A. That has -- I've never said that.

Q. That THMs are being formed, that's a good thing, in your opinion?

A. Trihalomethanes are formed as a direct result of disinfecting the water so that we do not have outbreaks of typhoid and cholera. It is an unavoidable consequence of the addition of disinfectant. And so therefore, it is something that we have had to live with both as a -- as environmental engineers as a society. That was the whole reason for the stage I and the stage II DBP rules to balance the risks associated with microbial contamination with the risks associated with chemical disinfection byproducts.

Q. Okay. But I believe you testified earlier that you thought that nine to ten percent of violations in those -- I'm sorry -- nine to ten percent of samples being violations of the MCL was not acceptable to you; is that correct?

A. That's correct. I said I always strive for a hundred percent compliance.

Q. Okay. Thank you, Doctor. Let's turn our attention to cyanotoxins.

Doctor, it is not your opinion that all cyanotoxins produced by all cyanobacteria are always, in fact, removed in conventional water treatment; correct?

A. That's correct.

Q. Okay. It would depend on plant design?

A. It would depend upon a lot of things, including the type of oxidant that's being used, whether, you know, activated carbon was being used, and on the particular cyanotoxin itself.

Q. Okay. And, Doctor, you don't know whether the water utilities in the IRW have, in fact, been designed in a manner that would remove all the cyanotoxins produced in the blue-green algae in Lake Tenkiller; correct?

A. All I know is that there are two positive samples from microcystin-LR. There's been no evidence presented on any other cyanotoxin. So I have believe that unless I'm presented with data, that those other cyanotoxins do not exist, and so therefore, they do not have to remove them.

MS. XIDIS: Okay. I move to strike that as nonresponsive.

THE COURT: Any response?

MR. JORGENSEN: It was directly responsive.

THE COURT: I don't believe so. The answer is stricken. The question was, you don't know whether the water utilities in the IRW have, in fact, been designed in a manner that would remove all of the cyanotoxins produced -- well, it says in the blue-green algae in --

MS. XIDIS: I think it's "by," I think, Your Honor.

THE COURT: -- by the blue-green algae in Lake Tenkiller, Doctor. Well, it's the same question.

Go ahead.

A. I'm sorry. I'm having trouble --

Q. *(BY MR. XIDIS)* I'd be happy to repeat the question.

You don't know whether the water utilities in the IRW have, in fact, been designed in a manner that would remove all the cyanotoxins produced by blue-green algae in Lake Tenkiller; correct?

A. Could I ask a clarifying question?

Q. Just try TO answer the best you can. I think it's a yes or no question, sir.

A. I don't know.

Q. Okay. And, Doctor, someone other than yourself actually drafted some of the cyanotoxin portion of your report; isn't that correct?

A. Yes. I work with two staff members under my direct supervision.

Q. Okay. And your opinions in this case are limited to cyanotoxins in drinking water, correct, and not to recreational uses?

A. That's correct.

MS. XIDIS: Okay. No further questions for the witness, Your Honor.

But I do have one housekeeping matter, which was Exhibit 5202, which I believe Mr. Jorgensen represented was admitted in the record. And we've checked our lists and don't show it as admitted but we're happy to have it admitted and have no objection to doing so.

THE COURT: All right.

MR. JORGENSEN: I believe my records show that it is, but let's just clarify that by, we move to admit it.

THE COURT: That's easily done. 5202 is admitted without objection, if it has not been already.

All right. Mr. Jorgensen.

MR. JORGENSEN: Yes, Your Honor.

REDIRECT EXAMINATION

BY MR. JORGENSEN:

Q. Dr. McGuire, let's start where Ms. Xidis left off.

Did you testify that you had seen the data that the state has gathered about what cyanotoxins were detected in Lake Tenkiller?

A. I have seen the data, yes.

Q. Okay. And what was detected?

A. Two positive samples for microcystin-LR.

Q. Is that what is known about the presence of cyanotoxins in the water?

A. Yes.

Q. And did you not -- well, I won't ask it that way.

Did you familiarize yourself with the treatment processes at the plants in the Illinois River Watershed?

A. Yes.

Q. And are the treatment procedures that are used at the plants in the Illinois River Watershed sufficient to remove the cyanotoxins that you just talked about, those that are known to exist?

A. Yes, they are.

Q. All right. Let's talk for a minute about the information collection rule -- sorry, we did all these with the previous court reporter -- the information collection rule.

I believe you were asked some questions about whether you removed some data from the TOC values reported by the 18 facilities. Do you recall those questions?

A. Yes.

Q. To what extent was your removal of those data points part of a standard statistical technique to exclude outliers?

A. That's what a -- anybody who's analyzing data has to do. There are -- we call outliers, but in this particular case it's clear to me that they're mistakes. They are some kind of analytical mistake or transcription mistake.

So therefore, I felt fully justified, based upon all of my years of experience, of excluding those TOC data that didn't make any sense. Some of them were 30 and 40 milligrams per liter and there was no data to support that those levels have ever been found in the IRW.

Q. And did you testify that they tended to be

grouped in a particular way or from a particular location?

A. Yes.

Q. And will you remind me what that testimony was?

A. They seemed to be in the LRED water utility data sets.

Q. Can I ask you -- and I realize you've got a stack of paper up there -- to dig out Defendants' Joint Exhibit 6057, which is one that Ms. Xidis gave you?

MR. JORGENSEN: And, Your Honor, may I approach to show him what it looks like?

THE COURT: You may.

MR. JORGENSEN: Yeah, it's that one.

Q. *(BY MR. JORGENSEN)* Doctor, based on your 35 years of experience looking at total organic carbon values around the country, are these values for the IRW particularly high? Particularly low? How do they strike you?

A. They strike me as particularly low. They're certainly lower than the average we've seen around the country.

Q. Okay. Let me switch gears and ask you -- I believe you were asked some questions about the

information collection rule and whether that presented you with a very large set of data samples.

Do you recall those questions as to total organic carbon and what was the size of the information collection rule? Do you recall those questions from Ms. Xidis?

A. I do.

Q. Is the fact that the information collection rule data gathered by EPA is large and robust does that make your comparison more reliable or less reliable?

A. Anyone doing data analysis, as in this case, always wants more data. And so these large data sets are ideal for making these comparisons.

Q. All right. If I can turn your attention now, Dr. McGuire, to another exhibit that Ms. Xidis handed you. This is Defendants' Joint Exhibit 6042. I see that you have it. I want to clarify because I think that there are some things said in the record that may not be right.

Did you do a study as to whether any of these are actual sources of phosphorus to the waters of the Illinois River Watershed or are you just listing them as potential sources?

A. I just listed them as potential sources.

Q. Are you testifying today that any of these sources follow the fate and transport mechanisms that would be necessary to get phosphorus to the water?

A. I'm not testifying to that.

Q. Okay. I just wanted to clarify that.

Let me turn your attention to another exhibit that Ms. Xidis handed you. I believe this is 6061. Do you have that one?

MR. JORGENSEN: May I approach, Your Honor?

THE COURT: You may.

MR. JORGENSEN: Yeah, that's it.

Q. *(BY MR. JORGENSEN)* Doctor, this is a chart -- your chart of the 18 drinking water utilities in the IRW, and I just want the record to be very clear.

Of the six that have had issues, six of the eighteen, had any of them already fixed their problems?

A. Yes.

Q. How many?

A. Three.

Q. Of the three that continue to have problems, is it an issue of poor water quality coming into their intakes or an issue of them moving their point of

chlorination?

MS. XIDIS: Objection, Your Honor. This has been asked and answered.

THE COURT: Sustained. It's clear. I think he's clearly answered that.

MR. JORGENSEN: That's all I wanted, Your Honor, was for it to be clear. So with that, I'm done. Thank you.

THE COURT: Very well. Recross?

MS. XIDIS: No further questions, Your Honor.

THE COURT: Very well. You may step down.

The defendants may call their next witness.

MR. GREEN: Your Honor, it gives me pleasure to call the very last witness on behalf of the defendants in this case, Dr. Herman Gibb.

HERMAN J. GIBB, PH.D.,

after having been first duly sworn, says in reply to the questions propounded as follows, to-wit:

THE COURT: State your full name for the record, please.

THE WITNESS: Herman Jones Gibb.

THE COURT: Mr. Green, you may inquire.

MR. GREEN: Thank you, Your Honor.

DIRECT EXAMINATION

BY MR. GREEN:

Q. Dr. Gibb, will you tell us how you are currently employed, sir?

A. I'm the president of Tetra Tech Sciences, which is an operating unit of the Tetra Tech Corporation.

Q. And is that a consulting company?

A. It's a consulting company, yes.

Q. And what kind of consulting does it do, sir?

A. We do health-risk assessment consulting.

Q. I'd like now to turn to your education for a moment. Can you tell us about that?

A. Yes. I have a Bachelor of Science degree from Pennsylvania State University, I have a master of public health and environmental health from the University of Pittsburgh, and I have a Ph.D. in epidemiology from Johns Hopkins University.

Q. And, sir, did you have any military experience while you were earning your Ph.D.

A. Yes, sir. I was commander of my detachment, my Army Reserve detachment, while I was working on my Ph.D. at Johns Hopkins.

Q. And did that entail any active duty, Dr. Gibb?

A. I was on active duty for three years, two years after my commission through ROTC, and then my reserve unit was mobilized for the Gulf War.

Q. And how many months on active duty did you spend in connection with that war, sir?

A. Nine months.

Q. Now, Dr. Gibb, are you currently retired from the Reserves?

A. Yes. I retired as lieutenant colonel.

Q. Are you associated with any university?

A. Yes. I'm on the faculty at George Washington University in the School of Public Health.

Q. And did you have a career at the EPA, sir, before your present job?

A. Yes, I did.

Q. And when did you start at the Environmental Protection Agency?

A. 1974.

Q. And for how long were you at that agency, sir?

A. A little bit over 29 years.

Q. So that would take us to what?

A. About 2004, early 2004, when I left.

Q. Okay. I'd like to ask you to spend some time and take us through your assignments and where you worked within the EPA, if you would, sir.

A. Most of my time was spent at the National Center for Environmental Assessment, which is part of the Office of Research and Development at EPA.

Q. Okay. Why don't you just slow down just a -- just a little bit, if you will, please.

A. Okay.

Q. You mentioned the National Center for Environmental Assessment. What is the work of that center, Dr. Gibb?

A. Well, the center develops the risk assessment methodology for the agency and they do some of the high-profile risk assessments -- or they do the high-profile risk assessments.

Q. Now, when you say that the agency develops, and you helped to develop, the health-risk assessment methodology for the EPA, can you help us to understand what that means?

A. Right. Well, the center develops guidelines in how to do risk assessment. So, for example, they do exposure assessment methodology, they do developmental toxicity methodology on how to assess a carcinogen. I was particularly involved with the

carcinogen risk assessment methodology.

Q. Let's go beyond that for just a moment and ask you what were some of the positions which you held at the National Center for Environmental Assessment?

A. Well, I started as a staff epidemiologist and I was a branch chief. I became the assistant center director. I was the associate director for health.

Q. And is that the position that you had when you left the EPA, Doctor?

A. Pretty much. For a couple of months before -- a few months before I left I was the science advisor to the director.

Q. To the director of the agency?

A. To the director of the National Center for Environmental Assessment.

Q. Okay, sir. Now, did you have any involvement in establishing water quality standards while at the Environmental Protection Agency?

A. Yes. I worked particularly on the arsenic standard, but I also was involved with the office of water and some of the other drinking water standards.

Q. Doctor, what was the result of the work that you did with regard to the water quality standards that relate to arsenic?

A. The drinking water maximum contaminant limit

was lowered by fivefold as part of that work.

Q. Part of the work that you did?

A. Part of the work that I did.

Q. Okay. Have you, sir, received any awards while you were working for the Environmental Protection Agency?

A. Yes, sir. I received the Gold Medal from the agency on the work that I did on arsenic. I received the agency Scientific and Technical Achievement Award for my epidemiology study of chromate production workers. I received an award for international environmental protection. And -- I mean, I received a number of other awards. Just too many to describe here.

Q. Okay. We won't take the time to do that.

Let me switch directions just a bit and ask you whether you were involved in the aftermath of the tragedy at the World Trade Center in this country?

A. Yes. I directed the assessment of the ambient pollution that resulted from the center. We had a number of air monitors set up around the center, and we had hundreds of thousands of data points which we analyzed.

Q. And were you analyzing them to assess their health impact on the local population?

A. Yes, we were.

Q. Doctor, did you publish a report based on your work?

A. Yes, we did.

Q. And did you reach any conclusions in that report?

A. We concluded that there wasn't -- there wouldn't have been a health risk and there wasn't sufficient exposure to have caused the problem.

Q. To cause adverse health --

A. To cause adverse health effects, correct.

Q. All right. Are you involved, or have you been involved, with the World Health Organization in any manner throughout your career?

A. Yes. I've worked with World Health Organization for over twenty years. I currently chair a task force of the World Health Organization. I'm looking at the burden of disease from chemicals in food. I recently prepared a report on air pollution for the World Health Organization.

Q. Have you, sir, served on any White House interagency committees?

A. Yes. I served on two White House interagency committees on risk assessment and served on an interagency -- a White House interagency committee on

mercury in the Gulf of Mexico.

Q. And I presume you have but let me ask you: Have you authored any publications?

A. Yes. I've authored a number of journal articles and book chapters and they are included in my CV.

Q. Perhaps I should start by asking you to tell us, or for that matter, remind us what epidemiology is, sir.

A. Epidemiology is the study of disease and risk factors for disease.

Q. And when we talk of risk assessment, what are we meaning? What is risk assessment?

A. Risk assessment is taking the epidemiology information, toxicology information, ancillary data, and then evaluating what the risk would be to a population.

Q. And have you done that kind of work or that kind of risk assessment during your career?

A. Absolutely. This is what I did for about thirty years at the Environmental Protection Agency and in the time since I've left the agency.

Q. Okay. Is it possible to give us just a couple of specific examples of what you've done in that regard?

A. Well, for example, I did the risk assessment on arsenic which I described. I did a risk assessment on chromium which then led to the epidemiology study which I did. I've done a number of chemical assessments. I mean, just too many to describe here but --

Q. You mentioned sodium dichromate, did you? Is there a reference to that?

A. Yes.

Q. Okay. And tell us a little bit about that study. Did it lead to any changes in any regulation, Doctor?

A. Yes. That study became the basis of the OSHA permissible exposure limit, the current permissible exposure limit, which lowered the permissible exposure limit by tenfold -- by more than tenfold actually.

Q. Now, with regard to that undertaking, were you asked to testify before the United States Senate?

A. Yes. I was asked to testify before the Senate in August of 2009 and then in October of 2009. It's related to sodium dichromate exposure to which soldiers have been exposed to in Iraq. Subsequently, I was interviewed by NBC Nightly News shortly after the Senate testimony.

Q. All right. Doctor, are you still involved

with the Environmental Protection Agency in any way?

A. Yes. Last week I chaired a peer review of one of their chemical assessment documents. I currently -- I recently authored a paper with people from the Environmental Protection Agency that we are submitting to a journal. I regularly do peer reviews of assessments that the agency has done. Currently, I'm evaluating scholarship -- or fellowship applications to the agency.

Q. Let me bring us more in focus here with respect to the matter at hand and let me ask you, sir: What have you been asked to do in connection with this case, Doctor?

A. I was asked to evaluate the plaintiff's opinions with regard to disinfection byproducts and cyanobacteria.

Q. Insofar as they relate to the --

A. As far as they relate to the Illinois River Watershed and any health effects that these substances may be causing.

Q. Okay. Now, in respect to doing that, Doctor, have you reviewed any of the written opinions which were submitted by one or more of the plaintiff's experts?

A. Yes. I reviewed the opinions of Dr. Teaf and

Dr. Cooke.

Q. Okay. And with respect to trial testimony, did you review either Dr. Cooke's or Dr. Teaf's trial testimony?

A. I was here for Dr. Teaf's testimony and I reviewed in more summary fashion Dr. Cooke's testimony.

Q. Let me then direct your attention to the subject of disinfection byproducts, if I may. I'm not going to go through with you how disinfection byproducts are created because that's been amply testified to by others during the course of this trial.

But since you were here for Dr. Teaf's testimony, can you tell us which disinfection byproducts he testified about, Doctor?

A. He discussed total trihalomethanes and the haloacetic acids.

MR. GREEN: Okay. I'll be brief here. Some of this, Your Honor, was testified to some extent by Dr. McGuire, but for context I think we can move through it really quickly.

Q. *(BY MR. GREEN)* Dr. Gibb, can you confirm for me that the EPA has established regulatory limits for trihalomethanes and haloacetic acids?

A. Yes, they have.

Q. And those limits, sir, where can they be found?

A. It's in the stage I disinfection byproducts rule.

Q. And that rule went into effect?

A. In 1998.

Q. And, Doctor, quickly those limits are for try trihalomethanes and haloacetic acids?

A. Eighty micrograms per liter for trihalomethanes and 60 micrograms for haloacetic acids.

Q. All right, sir. If you have -- if you'll reach to your folder there and pull out an exhibit that we've already seen here this morning, State of Oklahoma 5212.

Do you recall this exhibit being used by Dr. Teaf when he testified and actually by Doctor -- were you here this morning to listen to Dr. McGuire's testimony as well?

A. Yes. Yes, I was.

Q. All right. So then you'll recall that reference was made to it during Dr. McGuire's testimony as well, sir.

Now, what do you understand that this exhibit

purports to show?

A. Well, it purports to show that there are what Dr. Teaf termed exceedances of different values. Dr. Teaf was sort of -- has a sort of potpourri of criteria here which he has claimed to have been exceeded, and therefore -- I mean, he drew from that conclusion that there were problems with disinfection byproducts.

Q. Okay. And did you under him to testify that these are all single sample concentrations?

A. These are all single sample concentrations, correct.

Q. Do you agree with Dr. McGuire's conclusion here given earlier today that none of these numbers -- none of these concentration values on Exhibit 5212 represent regulatory violations of the EPA's stage I rule?

MR. BULLOCK: Judge, I'm going to object to this being cumulative when one witness is asked to agree with the immediately --

MR. GREEN: I'll rephrase the question.

Q. *(BY MR. GREEN)* Do any of these numbers, any of these values, any of these concentrations reflected on Exhibit 5212, do they constitute violations of the

EPA's maximum contaminant levels set forth in the stage I disinfection byproduct rule?

MR. BULLOCK: Continues to be cumulative.

THE COURT: Overruled. Go ahead.

A. No.

Q. *(BY MR. GREEN)* Now, Doctor, I'm going to just change direction here a little bit but use this chart. I want you to look at the chloroform column, if you will. And under the chloroform column, Dr. Teaf has included something called a risk-based level. Do you see that?

A. Yes.

Q. And there's an asterisk there after "risk-based." If we follow that asterisk down to the bottom of the page, the notation says, "U.S. EPA Region 6 health-based screening level."

Do you see that, sir?

A. Yes.

Q. What do you understand that to refer to?

A. Well, it's a screening level that EPA Region 6 developed for industrial waste sites. But it is as its name implies, it is a screening value and it's used to set priorities and focus risk assessment efforts. But it's not -- it does not -- I mean, if

you're -- if -- if a concentration is in excess of that, it doesn't mean that there's a violation of anything.

Q. Okay. In its drinking water regulations, does the Environmental Protection Agency regulate to any screening level such as this?

A. No.

Q. All right. Let's move a little bit to the right and look at the columns under the constituents dibromochloromethane and bromodichloromethane, Doctor. They also have references to risk-based concentration levels and I want to ask you this question.

Do these risk-based levels under what I'll call the bromo columns, do they represent violations of EPA's stage I disinfectant byproduct rule?

A. No.

Q. Where do these risk-based concentrations come from that Dr. Teaf has used on this chart, Exhibit 5212?

A. They come out of the stage II rule and they are -- the concentration would be associated with a theoretical one-in-a-million risk.

Q. Go ahead.

A. It's theoretically derived. I mean, it's --

Q. Okay.

A. -- not observed.

Q. In that stage II rule discussion where a theoretical concentration associated with a one-in-a-million cancer risk, were there other concentrations discussed as well?

A. Yes. He could have used -- there was a 10 to the minus 5th risk that was discussed in the supporting documentation that went with the stage II rule. But Dr. Teaf chose to use the 10 to the minus 6th risk, which, of course, means that he's going to find more of what he calls exceedances over the number.

Q. Okay. Let's stay on this for just a second longer.

Even with respect, Dr. Gibb, to the assessment of a one-in-a-million cancer risk, is that based on human or animal studies, sir?

A. Based on animal studies.

Q. And are the doses low? Average? High? Can you categorize that?

A. Doses are very high.

Q. How high are they, Doctor?

A. Well, the dose that would have caused -- the lowest dose, which would have caused tumors in the animals, is at least 10,000 times greater than the

concentration that would be associated with a one-in-a-million risk.

Q. So let me see if I can kind of put that into another frame of reference.

How much water would an individual have to drink at the maximum contaminant level to be exposed to the lowest dose which would cause cancer in animals?

A. Well, it depends on the disinfection byproduct. But you would have to drink -- and this is at the -- at the MCL, which is the highest limit -- highest concentration allowed -- again, it's over -- it reflects a running average of quarterly samples. But you would have to drink about at least 300 gallons of water up to as much as 8,000 gallons of water every day for the rest of your life.

Q. So, sir, what does Dr. Teaf's single sample analysis reflected in Oklahoma Exhibit 5212 tell you about whether these water utilities, these 18 water utilities that are listed on the left side of the exhibit, were in violation of the maximum contaminant levels set by the EPA for disinfection byproducts?

A. Well, they're not saying anything about whether they were in violation of the maximum contaminant limit because they are single samples.

Q. Okay. And with respect to these percentages that are set out on the bottom of the chart under the respective columns, from your perspective, sir, and the perspective of health to the human population, are these percentages at all meaningful?

A. No. They're meaningless.

Q. Doctor, let me ask you whether or not the Oklahoma Department of Environmental Quality has adopted the EPA's stage I rule with regard to maximum contaminant levels in connection with its monitoring of Oklahoma's water quality?

A. Yes, they have. In fact, they refer to it on their Web site.

Q. There have been some references -- in fact, His Honor asked a question this morning -- concerning the stage II disinfectant byproduct rule. When does that go into effect?

A. 2012.

Q. And I'd like to just confirm that that does not change, does it, the maximum contaminant levels for trihalomethanes or haloacetic acids?

A. No, it does not.

Q. What, if anything, will change from the stage I rule, Doctor, to the stage II rules?

A. I think -- I mean, it's a fairly large

document, but I think the most important change is there will be more intensive monitoring.

Q. All right. In your packet there, you should have a demonstrative which has the number 256 on it. Do you see that, sir?

A. Yes, I do.

Q. This is a demonstrative that Dr. Teaf discussed during his testimony when he was here at this trial.

What did you understand to be the point of this chart, Dr. Gibb?

A. Well, Dr. Teaf was trying to demonstrate that these are -- have carcinogenic potential in humans.

Q. Let me go kind of to the bottom line here -- one of the bottom lines.

Have studies shown a definite connection between disinfection byproducts and cancer in humans?

A. No.

Q. Can you help me to understand what these studies have been based on?

A. These studies -- I mean, these classifications are all based on animal data.

Q. And what about the level of doses?

A. And the doses are very high, I mean, to which the animals are exposed.

Q. When you look at these initials -- do you see that in the top line of --

A. Yes.

Q. -- or I guess the second line of this exhibit IARC and NTP and EPA? Do you have that in view there?

A. Yes.

Q. Are all three of those organizations regulatory agencies, Doctor?

A. No. The only one is the Environmental Protection Agency, which is the far right-hand column.

Q. Now, these descriptors that appear in the yellow portion -- possible and reasonably anticipated and probable -- do they all relate to a theoretical risk?

A. Well, what they are is they have taken the animal evidence and concluded from that that there could some potential for humans.

Q. Are these classifications currently in use by the Environmental Protection Agency?

A. Actually, these are not. Dr. Teaf has used an old -- the old classifications which came out of the 1986 guidelines. The current guidelines were published in 2005. I actually was part of those guidelines, in developing those guidelines.

But now they would say it's -- either human carcinogen or likely -- I mean, the evidence is that it's a human carcinogen. The evidence is that it's likely or suggestive or there's inadequate evidence to evaluate or it's not likely to be a carcinogen.

Q. Okay. If you just focused on chloroform, which is the first constituent listed under this chart, what would be the significance of using the most recent classification?

A. Well, one thing is that the agency allowed for in its current guidelines is that the mode of action is taken into consideration.

What the agency says for chloroform is that it is not likely to be a carcinogen if there is -- unless -- unless there is cell cytotoxicity and cell regeneration and that's what happens at the high doses. So the agency recognized that the exposures to which the animals were exposed were so high they were causing this effect.

You would not see those concentrations in a drinking water supply. I mean, they're far below what the animals were exposed to to have caused the cell -- the cellular cytotoxicity and the cell regeneration.

Q. Dr. Gibb, in the latest evaluation of cancer

risks, which I think you said -- and with respect to the change in classification that took place in 2005, did the Environmental Protection Agency find any of these constituents that are listed on this demonstrative 256 to be causally associated with an increased risk of cancer in humans?

A. No.

Q. Now, in this trial, there has been a mention of possible risks to embryos associated with using chlorine to treat drinking water. If my memory serves me right, I believe we heard Dr. Cooke refer to embryo toxicity, if I'm right. Let me just ask you this.

What is embryo toxicity?

A. Embryo toxicity would be toxicity to the embryo or it would be reproductive or developmental toxicity.

Q. Has the Environmental Protection Agency, Dr. Gibb, determined that there is any causal association between disinfection byproducts and embryo toxicity?

A. No.

Q. Let me turn to one other exhibit that I think Dr. Teaf addressed, if I may. If you will go to Oklahoma Exhibit 5213, which is in your packet.

Do you have that in front of you, sir?

A. Yes, I do.

Q. All right. Do you recall that Dr. Teaf made reference to this Exhibit 5213 during his testimony?

A. Yes.

Q. And what did you understand Dr. Teaf's point to be in using this chart, Dr. Gibb?

A. Well, Dr. Teaf indicated at these three facilities -- Cherokee RD No. 2, Gore PWA, and Tahlequah -- that there were what he termed exceedances, again a variety of different criteria which he has selected, suggesting that there were a number of, I presume, violations or issues with these facilities.

Q. And this is with respect to finished water, right, treated water?

A. With respect to finished water, correct.

Q. When you look at this chart, Dr. Gibb, from your perspective, what's wrong with the data on this chart insofar as how Dr. Teaf attempted to use it?

A. Well, again, it's -- I mean, these are single samples. I think that -- again, I mean, he's using dibromochloromethane, you know, risk-based values that are, you know, from animals for very high exposures and trying to relate that. And from that, he's basing that there is a health risk.

I might point out that chloroform, the MCLG cites as 70, and we move over -- which we had discussed earlier about the .17 screening level. It's interesting that the MCLG is the concentration below which the Office of Water, headquarters of EPA, believes there is no known or expected health risk, yet the screening level is 400 times below that.

So there's obviously -- you know, this is just sort of a collection of criteria which he then uses to find that there are concentrations above these different criteria which he has selected.

Q. Do these numbers have any significance from a regulatory perspective with respect to the stage I disinfectant byproduct rule?

A. None at all.

Q. Now, just quickly, Dr. McGuire this morning indicated that he had determined that there were 25 actual disinfection byproduct violations using the rolling annual average.

Do you recall that testimony?

A. I think he said 24.

Q. Twenty-four. I'm sorry. Yes, 24.

Having heard Dr. McGuire's testimony in that respect and having reviewed and seen and listened to Dr. Teaf's testimony, can you reconcile their

respective findings about disinfection byproduct violations?

A. Well, you can reconcile them because Dr. McGuire looked at actual violations. Dr. Teaf just found numbers and then took single samples and found them to be in excess of --

MR. BULLOCK: Judge, I'm going to object to the testimony of this witness reflecting upon what Mr. McGuire said about what Mr. Teaf said -- Dr. Teaf said.

MR. GREEN: Well, let me rephrase it.

THE COURT: Well, it's duplicative, is it not?

MR. GREEN: Pardon?

THE COURT: It's duplicative, right, and cumulative?

MR. GREEN: Well, this exhibit wasn't used in any of the testimony this morning, to the extent that I'm questioning him about 5213. But what I'm just trying to simply get him to confirm is that there is no way to reconcile the testimony of Dr. Teaf and with his exceedances any actual -- you know, any actual count of regulatory violations. I don't think that's really duplicative but --

THE COURT: I think it's clear, you

know, as Ms. Xidis pointed out, he used the term "exceedances," he didn't use the term "violations."

MR. GREEN: Very well, sir.

THE COURT: Sustained.

Q. *(BY MR. GREEN)* Now, Doctor, did you investigate whether there were any actual regulatory exceedances of the stage I disinfection byproduct rule at any of the three utilities that are reflected on Oklahoma Exhibit 5213?

A. Yes, I did.

Q. And did you prepare a demonstrative to set forth the findings that you reached?

A. Yes, I did.

Q. Okay. If you would retrieve our Demonstrative No. 318 there from your packet, Doctor.

A. This is the --

Q. Pardon?

A. I don't think this is the correct demonstrative.

Q. Okay.

A. This one correct -- this one's correct.

Q. The one that's on the screen?

A. Right. This is correct.

Q. Yes.

THE COURT: Can we take just a second to

get our real-time fixed?

(Short break)

THE COURT: Mr. Green, we're up and running.

MR. GREEN: Okay, sir. Thank you.

Q. *(BY MR. GREEN)* So let me just back up a click here, Doctor.

I asked you whether you had conducted your own investigation to determine whether there were any actual regulatory violations of the stage I disinfectant byproduct rule at any of the three utilities that are listed here on Exhibit 5213?

A. Yes, I did.

Q. All right. And then did you prepare a demonstrative to set forth the results of your investigation?

A. Yes. I looked at the years 2004, 2005, 2006, 2007 for those three utilities, and this comes from the OED office -- the Oklahoma Department of Environmental Quality annual reports. The only one that had violations of the three was Gore PWA in 2005.

Q. Okay. And is that one violation?

A. And that was one violation.

Q. Now, Doctor, even if there is a regulatory violation, such as the one at the Gore Public Water

Authority in 2005, does that mean that the water is unsafe to drink?

A. No. It's not -- I mean, I don't even think at two times the MCL that the water would be unsafe to drink. I mean, again, the risks that are estimated come from very high doses in animals. So we have no experience -- we have no evidence to confirm that these risks even occur in a human population.

Q. Does the Illinois River Watershed have a high number of violations as compared to other areas of the state? Did you investigate that?

A. Yes.

MR. BULLOCK: Objection to the relevance of this inquiry.

MR. GREEN: It has the same relevance that Your Honor found acceptable in connection with the prior interrogation.

THE COURT: Overruled.

Q. *(BY MR. GREEN)* With respect to this issue, did you make any investigation of actual regulatory violations statewide?

A. Yes, I did.

Q. All right. And did you create a map or an exhibit to illustrate your analysis?

A. Yes, I did.

Q. All right, sir. If we could move to pulling from your packet Defendants' Joint Exhibit 3690. Do you have that in front of you?

A. Yes, I do.

Q. Eighty-nine. I'm sorry. It's 89.

Okay. Doctor, was this map or exhibit included in your report?

A. Yes, it was.

Q. And where does the data come from? How did you create this, sir?

A. This comes from the Oklahoma Department of Environmental Quality's SDWIS database.

MR. BULLOCK: Judge, could we wait until it's at least offered before we begin publishing it?

THE COURT: I agree.

MR. GREEN: I didn't notice that it went up, Your Honor.

Based on Dr. Gibb's last couple of answers, Your Honor, I move the admission of Defendants' Joint Exhibit 3689?

THE COURT: Any objection?

MR. BULLOCK: Just one more in a long line of exhibits that have nothing to do with proving the truth or falsity of any of the matters at issue in this case.

THE COURT: Well, as I say, we won't look at this in a vacuum but it is relevant. The objection's overruled. 3689 is admitted.

Q. *(BY MR. GREEN)* Okay. Doctor, looking at this exhibit, how does this inform your analysis about regulatory violations in the Illinois River Watershed as compared to other portions of the state?

A. Well, I mean, you can see the Illinois River Watershed is depicted on the maps for 2004, 2005, 2006, 2007. And I mean, it's -- I think it's obvious that the -- there are no more DBP violations in the Illinois River Watershed than there are in any other place in Oklahoma.

You can see -- I mean, some of them are fairly high, like the one down on the Texas border. I think that's Tillman County. A fairly high proportion in 2006 and 2007. I think it's Nowata County that's up in the Kansas border that had a fairly high, but not in the Illinois River Watershed. It's just not been -- it did not appear to be anymore violations. In fact, it looks like even less violations there than any other place in the state.

Q. All right, Doctor. Finally, let me draw your attention to one of Dr. Teaf's ultimate opinions which he testified to.

MR. GREEN: And I'm quoting right from the transcript, if I may, Your Honor.

Q. *(BY MR. GREEN)* And Dr. Teaf said this while on the witness stand.

"The breadth, both in time and space, of the detected concentrations of DBPs that are found in the Illinois River Watershed water treatment plants, the magnitude of those concentrations and the significance of the substances renders this to be a significant health issue."

Do you remember Dr. Teaf providing the court with that opinion?

A. Yes, I do.

Q. Do you agree with Dr. Teaf's opinion, sir?

A. No, I don't.

Q. Why not?

A. I think this is -- I think this statement is a gross misrepresentation of the information that's available. Dr. Teaf has taken sort of a collection of criteria and found single samples that exceed those criteria.

For example, he had the inconsistency of using an MCLG for chloroform and then a risk-based value, which themselves putting them beside each other wasn't even consistent. Taking what he called

risk-based numbers, which are based on extrapolations from doses in animals that are extremely high, we would never be able to detect in the human population those -- those risks.

And then, of course, if the idea -- although he may have said "exceedances" -- used the term "exceedances" as opposed to "violations." But if the idea was that total trihalomethanes and haloacetic acids were somehow in violation, they weren't. So I think this is -- I mean, I think he's been disingenuous in the way he's presented the data.

Q. All right, Doctor. Do you still have 5212 up there near you? Let me just take you back to that for a moment.

A. Yes, I do.

Q. Now, on the left side of that exhibit are the 18 water utilities drawing water from the Illinois River Watershed. Do you acknowledge that?

A. Yes.

Q. Sir, have you seen any information or developed any information that the State of Oklahoma has ever stopped any of these water utilities from providing finished water to its customers in the Illinois River Watershed at any time in, let's say, the last decade?

A. No.

Q. Let me take a few moments to talk to you about cyanobacteria.

Did you discuss cyanobacteria in your expert report?

A. Yes, I did.

Q. And tell us briefly what cyanobacteria are, sir.

A. Cyanobacteria are organisms that have some properties of bacteria and some algae and they photosynthesize. So there's somewhat different but they can also produce some toxin.

Q. Are they a recent phenomenon?

A. No, they're not. I mean, they have been studied for over a hundred years and, in fact, they were noted in the 12th Century. I mean, there are reports in the literature of observations of them in the 12th Century. They're also commonly referred to as blue-green algae.

Q. And where is this algae, this cyanobacteria, found?

A. Where's it found?

Q. Where's it found? Is it found everywhere?

A. Oh, it's found in -- it's found throughout the world. It's found in freshwater, in marine water,

and brackish water.

Q. And found throughout the United States?

A. And found throughout the United States, yes.

Q. Okay. Do all cyanobacteria produce toxins?

A. No, not all produce toxins. About 60 percent produce toxins.

Q. And is there a most common toxin produced by cyanobacteria?

A. Most common is microcystin-LR.

Q. And has this toxin, microcystin, been detected in waterbodies throughout the United States well beyond the Illinois River Watershed?

A. Yes, it has.

Q. Did you, sir, in your report prepare any map or demonstrative explaining that?

A. Yes, I did.

Q. All right. Why don't we take our last document out of the packet here, which is Defendants' Joint Exhibit 3691, Doctor. And this was in your report; is that correct?

A. Yes, it was.

Q. And where does the -- where does the data come from that's depicted on this exhibit, Doctor?

A. This is a U.S. Geological Survey map. It was

published in 2000 --

Q. Pardon?

A. It was published, I believe, in 2008.

Q. All right, sir.

MR. GREEN: Your Honor, I move the admission of Defendants' Joint Exhibit 3691.

MR. BULLOCK: Same objection as to relevance.

THE COURT: All right. And pointing to Dr. Teaf's testimony that Mr. Green just read highlights the relevance. The objection's overruled. 3691 is admitted.

Q. *(BY MR. GREEN)* Can you just very briefly, Dr. Gibb, tell us what this exhibit depicts and how this informs your analysis, sir?

A. Well, you can see that the blue dots are no detectable microcystin and the red dots are detectable microcystin. You can see that it's found throughout United States. It's particularly found in the upper Midwest, also in the East Coast. But it doesn't -- I mean -- I mean, the point being that it's found throughout the United States. It's not uncommon.

Q. If you recall, Dr. Gibb, did the plaintiff's experts find any evidence of microcystin during their analysis of the watershed?

A. The plaintiff's own experts, Camp Dresser McKee, found no evidence of microcystin in the examples they took. Cooke and Welch cited a paper by Lynch and Clyde in which there were five samples taken in Lake Tenkiller. Two of them contain microcystin, one was at 3.3 micrograms per liter and the other one was at .35 micrograms per liter.

Q. And are those the only references to demonstrated microcystin concentrations that you saw in your investigation of this matter?

A. That is the only data that I am aware of that demonstrate microcystin in the Illinois River Watershed.

Q. Okay. Dr. Gibb, do some states regulate concentrations of microcystin?

A. There are two states that I'm aware of that regulate, Oregon and Vermont.

Q. And are the concentrations of microcystin that you just mentioned that were found by Mr. Lynch and -- or Dr. Lynch and Dr. Clyde, are they above or below any existing state regulatory levels?

A. They are below.

Q. Has the State of Oklahoma issued any regulations or guidance for cyanobacteria or microcystin?

A. No.

Q. What about the State of Arkansas?

A. No.

Q. Are there federal levels providing for acceptable concentration of -- concentration levels in, you know, the federal system for microcystin?

A. No.

Q. Now, Doctor, there has been a reference in this trial -- and I hope I'm pronouncing these correctly -- cylindrospermopsis and cylindrospermopsin.

Do you recall those references?

A. Yes, yes.

Q. Okay. What's the difference between cylindrospermopsis and cylindrospermopsin?

MR. BULLOCK: In addition to the fact that the court reporter might have difficulty interpreting that, I don't believe that any of this is in the doctor's report.

THE COURT: Is that correct, Mr. Green?

MR. GREEN: Your Honor, I will --

THE WITNESS: Actually, it was in Dr. Cooke's testimony.

THE COURT: Well, but -- no, I'm sorry. Mr. Bullock is stating that it's not in this witness'

report.

THE WITNESS: No, that's not correct.

THE COURT: All right. Go ahead, Mr. Volpe.

Q. *(BY MR. GREEN)* If you can find -- do you have your report there, Doctor?

A. Yes. Yes, I do.

Q. If you can find the reference, that will probably be faster.

MR. GREEN: But, Your Honor, this is a situation where the plaintiff's experts surfaced the reference to this toxin while on the stand, and I think it is --

THE COURT: Well, but if it was in their expert's report and you came next, you didn't reference it, it's new. The same rules apply.

THE WITNESS: It's -- I'm sorry.

THE COURT: But right now we're fencing with ghosts and the witness says it's in his report. So go ahead.

Q. *(BY MR. GREEN)* Doctor, have you found a reference to this?

A. Yes, I have. If you go to -- turn to page 20 and paragraph 76.

THE COURT: Got it. Overruled. Let's

go.

MR. GREEN: Okay. Thank you.

THE COURT: Let's try to have a basis for your objections before --

MR. BULLOCK: I just didn't remember it. I apologize.

THE COURT: Yeah, I understand. It's a big topic. Let's go.

Q. *(BY MR. GREEN)* With respect to these two constituents I just mentioned -- and I'll provide the reporter with the spelling -- but what's the difference between cylindrospermopsis and cylindrospermopsin?

A. Well, cylindrospermopsis is the genus, the taxonomic genus, and cylindrospermopsin is the toxin.

Q. Okay. With respect to the toxin now, cylindrospermopsin, in the course of your analysis for this case, have you seen any evidence that any cylindrospermopsin has ever been detected in Lake Tenkiller?

A. No. And that's, you know, what I read to you from my report, is that Lynch and Clyde detected no cylindrospermopsin in Lake Tenkiller.

Q. Has any state or federal agency reported cyanobacteria outbreaks in either drinking or

recreational water in the state of Oklahoma?

A. No.

Q. What conclusions, Doctor, have you reached regarding health risks presented by the presence of any cyanobacteria in Lake Tenkiller or the surface waters in the IRW?

A. Well, there was no microcystin detected by the plaintiff's experts, Camp Dresser McKee, in Lake Tenkiller. The microcystin concentrations that were cited by Cooke and Welch of Lynch and Clyde -- of the Lynch and Clyde report reported low concentrations. There was no cylindrospermopsin detected in Lake Tenkiller.

Cyanobacteria is common throughout the United States, it's not, you know, unusual. You know, it defines cyanobacteria in a lake. So I -- and there was no Centers for Disease Control reports of cyanobacteria problems in the Illinois River Watershed, or Oklahoma for that matter, and there was none reported by the Oklahoma Department of Health.

Q. So, Doctor, do you believe that if there is any cyanobacteria in the Illinois River Watershed and Lake Tenkiller, do you believe it presents any risk to human health?

A. No.

MR. GREEN: Very well. I think that's all I have, Your Honor.

THE COURT: Cross-examination.

CROSS-EXAMINATION

BY MR. BULLOCK:

Q. Doctor, let's go back and talk about the difference between minimum -- or maximum contaminant loads and the maximum contaminant load goal, okay?

Those are two different concepts, are they not?

A. It's maximum contaminant level, not load.

Q. Okay. Level. I'm sorry. Thank you for correcting me.

A. Well, the difference is that the maximum contaminant level is the level above which you're in violation, if you have a concentration above that, if you have a running quarterly sample of the maximum contaminant level. Maximum contaminant levels here are trihalomethanes and the haloacetic acids.

Q. Now, the maximum contaminant level goal, though, is a different concept, is it not?

A. The maximum contaminant level goal --

Q. Doctor, can you answer my question? Is the maximum contaminant level goal a different concept --

A. Well --

Q. -- than maximum --

A. -- it's a different -- I mean, it's different than the maximum contaminant level.

Q. Okay. And there was a different approach in terms of setting the two, was there not?

A. Well, I'm not sure what you mean by "different approach." Different approach to set the level or different approach to set it for these particular compounds, trihalomethanes and haloacetic acids?

Q. Well, let's start with for these particular compounds setting the goal versus the maximum level was approached from a different perspective, was it not?

A. The goal would have been set from a different perspective.

Q. Okay.

A. Okay.

Q. And the goal was based -- was looked -- was set by the EPA looking purely at the question of human health risks; is that not correct?

A. The goal is set looking at human health risk, and the maximum contaminant level is set as close to the goal as possible considering --

Q. Now, Doctor, I'm asking -- I'm going to ask

the court to strike --

MR. BULLOCK: Judge, I'm moving to strike his attempting to be nonresponsive to the question.

THE COURT: Yes. His answer stands after the word "risk" -- or up to the end of the word "risk"; in other words, "the goal is set looking at human health risk." The rest of the answer is stricken.

And, Doctor, you'll have an opportunity to fill in with questions from Mr. Green after Mr. Bullock asks the questions. Cross-examination is usually framed by fairly direct questions which generally call for fairly direct answers.

Go ahead.

Q. *(BY MR. BULLOCK)* Okay. So going back to the goal, the evidence that the EPA had to substantially rely on in setting the goals for the dissolution byproducts was largely animal studies, as you say, wasn't it?

A. The disinfectant byproducts.

Q. Yes.

A. Yes. To set -- right. That's correct.

Q. Okay. And, in fact, in doing -- in terms of human cancer studies IN light of the fact that we

can't administer -- with any type of ethical basis administer to individuals carcinogens or possible carcinogens to see the response rate, it's not unusual in science to rely upon animal studies for such matters, is it?

A. No. I mean, there are a number of epidemiology -- I mean, I did an epidemiology study of chromate production workers. So, of course, you can do studies --

THE COURT: Doctor, I think you've answered the question.

Go ahead, Mr. Bullock.

Q. *(BY MR. BULLOCK)* Okay. And when the EPA made the judgments concerning risk to human health, are you contesting that was done on the basis of a solid, scientific process?

A. I'm sorry. Would you restate the question.

Q. I'll be happy to.

When the EPA set the maximum contaminant level goals for these dissolution byproducts --

A. Disinfectant.

Q. -- are you contesting that that was set on the basis of a sound, scientific process?

A. There was a scientific process that set the MCLG, yes.

Q. Okay. And are you contesting the soundness of that process?

A. I'm not contesting the soundness of the process.

Q. Okay. And, in fact, when you look at Dr. Teaf's Demo 256, in fact, for instance, for bromoform, the EPA has said that it is a probable risk to human health; is that not true?

A. Well, as I said, they've changed the classification.

Q. Okay. Well --

A. It's an old -- he's looking at an old classification based on the 1986 guidelines.

Q. Well, Doctor, tell me whether this doesn't -- and I only brought a copy. But this was from the disclosed materials that defendants included in their disclosure.

And, for instance, is this familiar to you, this language: "The final" -- and this is just an example -- "MCLG for bromoform is zero. The zero MCLG is based on" -- let me get to the -- to the particular language.

MR. GREEN: Your Honor, I object. We don't even know where this is coming from. I mean, the materials are quite extensive --

THE COURT: Yes, sir. You're entitled to that.

MR. BULLOCK: Okay. This is from what was in your disclosure of -- it's actually Oklahoma Exhibit 5161, but it was a disclosure for this witness delivered to us. Particularly, it is the ground and drinking water -- national primary drinking water regulations disinfectants and disinfectant byproducts, and I see a date on it of May 2007. And I don't know that this has been admitted.

Q. *(BY MR. BULLOCK)* But let me ask you whether this language -- and this is what I'm reading for bromoform --

MR. GREEN: May I give the witness a copy of this?

MR. BULLOCK: If you have one, sure, please. That will make it easier.

MR. GREEN: May I, Your Honor?

THE COURT: Of course. What page, Mr. Bullock?

MR. BULLOCK: I'm looking at page 36.

THE COURT: I see a date of September 16, 1998 --

MR. BULLOCK: Well --

THE COURT: -- being printed in the

Federal Register.

MR. BULLOCK: Well, I was looking at perhaps the wrong date.

THE COURT: Yeah. What you're looking at is the date it was faxed, it looks like.

MR. BULLOCK: You're correct.

Q. *(BY MR. BULLOCK)* Okay. This is the '98 language; correct? Okay. And that's where they say that it's a probable human carcinogen based on a consideration of all relevant health data including cancer and noncancer effects?

A. Yes. What --

Q. Okay.

A. And may I explain what I was referring to in my discussion?

Q. Yeah. Please do so the record's clear.

A. Okay. And the stage II role utilized the most recent -- stage II was published four years ago now, okay -- the most recent guidelines which came out in 2005, but what this refers to is to the old evaluation done. And so what I'm pointing out is that Dr. Teaf in his evaluations referred to the old classification but that's important because of the chloroform --

Q. Okay.

A. -- evaluation.

Q. Okay. Now, one of the things -- let's talk about the MCLs, the maximum contaminant levels.

Those, as you say, are the regulatory violation -- or the regulatory standards which if you violate is a violation. And included in the setting of those was an assessment of the issue of the feasibility of upgrading plants to that level, correct, cost and technology?

A. Cost and technology going to the MCL, that's correct.

Q. Okay. So if you have waters which are below the MCL, then you certainly wouldn't -- let me go back.

In terms of human health risk, is it not better to be below, first of all, the MCL? The further you get below the MCL, the lower the health risk would be; is that correct?

A. Well, but it's a theoretical health risk.

Q. Okay. Well, but a lot in science are theoretical levels, particularly when you're dealing with epidemiology; is that not true?

A. No, I don't agree with that.

Q. Well, we talked earlier about the fact that the MCLGs were the result of a sound scientific

process.

A. It's a scientific process that evaluates the animal data.

Q. Okay.

A. But, I mean, in this case the animal data.

Q. And from that, people extrapolate as to whether people are -- whether human beings are at risk; correct?

A. No, I wouldn't agree with that.

Q. Well --

A. The MCLs -- I mean, the Environmental Protection Agency is a public health agency. They're not going -- I mean, obviously they're going to set the MCLs very conservative and as close to the MCLGs as possible. I mean, they are a public health agency, you want them to be protective, so they're going to set very low standards -- very low regulatory levels.

If you were to estimate what the risk would be, it would be a very low risk, a risk that, I mean, actually would be impossible to detect in the human population.

Q. Okay. But in the performance of their task of protecting human health, they also want you to know where the goal should be in terms of the minimum -- or getting below a level where you believe there may be a

risk to human health; right? That's what MCLGs are about?

A. Well, would you restate the question, please?

Q. All right. Well, obviously it wasn't formed well so I appreciate that.

The MCLG --

A. Yes.

Q. -- that is set by the EPA at the level at which there's no known or anticipated adverse health effects; correct?

A. That's -- that's the definition.

Q. Okay. And so as you go above the MCLG level, then at that point human health risks are increasing?

A. Entirely theoretical.

Q. Okay. Theoretically, the best-accepted theories of when people might be at risk?

A. It's not the best-accepted theory. I mean, as I indicated in my direct testimony, you could be at twice the MCL, not the MCLG, and still not have any risk.

Q. Doctor, are you rejecting then the judgments of the EPA in terms of the fact that -- that as you by -- as you get above the MCLG, that you are now into an area where there is a possible or probable risk to human health?

MR. GREEN: I object to that characterization. Because counsel wants to state the view of the EPA, and there is no evidence that that is, in fact, the EPA's view.

MR. BULLOCK: Okay. Well, let me rephrase.

THE COURT: Thank you.

Q. *(BY MR. BULLOCK)* Okay. When you get above the MCLG, you are into -- or you are beyond the area where it would declare that there was no known or anticipated adverse health effect; right?

A. Again, I mean, it's a theoretical risk and I wouldn't argue with the agency's process here. I want the agency to set the MCL as low as possible given cost and so forth.

And if they -- and through the process of the -- whatever they set the MCLG at is fine, but it doesn't mean that there is any risk of those concentrations we haven't demonstrated in the human population.

Q. Well, when you talk about -- talk about risk, it is, in fact, that bad things might happen; correct? It's not a certainty. There's an uncertainty always when you talk about a risk to human health?

A. You can demonstrate risk in a human

population.

Q. Okay.

A. And they haven't here.

Q. Well --

A. Or we haven't.

Q. It is their judgment, is it not -- I mean, am I missing something, that above the MCLG, that it is their judgment that there is some risk to human health?

A. Yeah. This was a discussion that we had --

Q. Well, I'm asking you, Doctor. Am I in error when I read the MCLG as being a level where the EPA is informing us that above the MCLG level there is a risk to human health?

A. I think what the EPA is saying is that -- I mean, again it's a conservative value and it's above that we cannot demonstrate a risk, we can only theorize a risk. I think, as I started to say earlier, it is a debate that we had at the agency. We don't know what the risks are above these estimated values, particularly when it's only animal data.

(Discussion held off the record)

Q. *(BY MR. BULLOCK)* Now, let's talk for a moment about cyanobacteria rather than you and I continuing to chase one another around what is

becoming the same tree.

In terms of cyanobacteria, Doctor, you were saying on your direct as to not having seen any data in terms of the levels of cyanobacteria found in the Illinois River -- or particularly in Lake Tenkiller. Do you recall that? Or limited data. I guess you talked about two -- let me go back.

In terms of the -- let's start like this.

In terms of the incidence of where cyanobacteria has been detected, would you repeat for me what you told the court on direct?

MR. GREEN: Object, Your Honor. He testified about fifteen minutes on cyanobacteria.

MR. BULLOCK: Well, let me go about it like this.

Q. *(BY MR. BULLOCK)* Doctor, in fact, you are aware that Dr. Teaf did report repeated instances where cyanobacteria was found in samples in Lake Tenkiller?

MR. GREEN: Object to the form of the question because it assumes a fact that really is not in evidence in this trial. I don't believe Dr. Teaf testified to that at all.

THE COURT: I believe this witness can handle the question. Overruled.

Q. *(BY MR. BULLOCK)* Okay.

A. I don't recall. I mean -- I mean, I don't recall Dr. Teaf talking about the levels of cyanobacteria found in Lake Tenkiller.

Q. Do you recall -- let's see. Well, let me just do it like this so that in terms of what the record is it is.

To the extent that Dr. Teaf reported levels of cyanobacteria being found in samples in Lake Tenkiller, you're not today expressing any opinion as to the accuracy of such observations, are you?

A. I mean, that sounds like a very hypothetical to me. You're asking me to --

Q. Well, I'm just asking you whether you're giving an opinion as to any testimony that Dr. Teaf might have given as to the level of cyanobacteria in Lake Tenkiller. Are you giving an opinion or not?

A. I don't recall that he testified to the level of cyanobacteria in Lake Tenkiller.

Q. Okay. So you're giving no opinion on that?

A. Well, again, I don't recall him testifying to that.

Q. Are you giving an opinion as to that?

MR. MCDANIEL: Your Honor, this argument is useless. If there's specific testimony that

Mr. Bullock wants this witness to respond to, he needs to confront him with that.

THE COURT: All right. Do you have any notes, Mr. Bullock, as to what you believe this witness said with regard to Dr. Teaf's findings or conclusions relating to cyanobacteria?

MR. BULLOCK: Well, I have very sketchy notes, Judge. I have a recollection of Dr. Teaf having offered some numbers, and then when he attempted to address the issue of health risk, we got into the fight over the WHO standards as to measuring as to how to assess those levels.

But that was my recollection of the testimony and as briefly and cryptically reflected in my notes, but I didn't go back to the transcript to confirm that. And so -- well --

THE COURT: Look, I have no notes. I tried to take good notes here.

What do you believe do you recall this witness said with regard to Dr. Teaf and cyanobacteria? I have no notes in that regard. We can take a recess, you can go back and take a look, but we're wasting time.

MR. BULLOCK: Judge --

THE COURT: Do you have any notes

relating to that which you wish to ask this witness?

MR. BULLOCK: Okay. My notes reflect that -- well, let me move on so that I can --

THE COURT: No. I want you to ask the question. If that was touched on in direct with this witness, you have -- you have a right to do that.

I have no notes touching upon Dr. Teaf's comments regarding cyanobacteria. This witness says he doesn't recall saying anything about that or that Dr. Teaf touched upon cyanobacteria.

Q. *(BY MR. BULLOCK)* Do you recall testifying in this court today that Dr. Teaf reported that there was cyanobacteria present in Lake Tenkiller?

A. In his testimony, no.

Q. Okay. In your testimony today, do you recall testifying to that?

A. Do I recall testifying to whether there was cyanobacteria?

Q. Whether --

MR. BULLOCK: I am going to move on, Judge, just because I'm --

Q. *(BY MR. BULLOCK)* Let's talk about, though, the relative risk of cyanobacteria, first of all, as to whether there are standards.

Your testimony is actually that Oklahoma

doesn't have a numerical standard as to cyanobacteria; is that correct?

A. That's correct.

Q. Oklahoma does have relevant standards as to -- that would cover cyanobacteria in Lake Tenkiller, do they not?

A. What are they?

Q. Well --

A. I don't know what they are.

Q. -- have you examined to see whether Oklahoma might have standards, other than numerical standards, which would govern the development of cyanobacteria in Lake Tenkiller?

A. I'm not aware of any.

Q. Would a standard which required that there be no degradation of water quality allowed in outstanding resource waters be relevant to the issue of cyanobacteria?

A. Very loosely, I guess.

Q. Okay. Because the growth of cyanobacteria in Lake Tenkiller would be a degradation of that water, would it not?

MR. GREEN: Your Honor, I object. We're not here on some aesthetic narrative standard. The witness is proffered as an expert in health risks that

are derived from or attached to cyanobacteria and not whether they are somehow appealing to the human eye or fail to meet some other narrative standard.

THE COURT: Well, I don't know, because I'm an expert in cyanobacteria, as to whether or not it would have violated aesthetic standards. Overruled.

Go ahead.

MR. BULLOCK: Okay.

(Discussion held off the record)

Q. *(BY MR. BULLOCK)* Did you look at the Oklahoma water quality standards before you gave your opinion as to whether Oklahoma had a standard?

A. Yes.

Q. Okay. So, for instance -- and we have these in the record of the court -- but I'm looking at 785:45-5-10, where the standard provides that these waters shall be maintained so that they will not be toxic, carcinogenic, mutagenic, or teratogenic to humans.

Now, cyanobacteria, in fact, can be toxic to humans, can it not?

A. Well, of course it could be toxic.

Q. And so if conditions are developing within the lake which -- or if cyanobacteria is developing in

the lake, then that would be in violation of Oklahoma water quality standards, wouldn't it?

MR. GREEN: I object, Your Honor. I mean, that calls for a -- not only does it call for a legal conclusion, but this is outside the scope of direct beyond the zone of the witness' expertise as, you know, called for in this case and I think this is improper.

He's not even showing the witness -- having the courtesy of showing the witness what standard he's referring to. But I do think this is objectionable.

THE COURT: Calls for a legal conclusion. I don't even have 45-5-10 in front of me. But the legal hypothesis or basis is that if conditions were developing within the lake which -- or if cyanobacteria is developing in the lake, then that would be a violation of Oklahoma water quality standards. That's clearly calling for a legal conclusion. Sustained.

MR. BULLOCK: Okay.

Q. *(BY MR. BULLOCK)* Cyanobacteria further would be -- in sufficient concentrations will irritate the skin or other organs of humans?

A. Could.

Q. In sufficient concentrations?

A. In sufficient concentrations. And I don't believe that every toxin but --

Q. Are you expressing an opinion on whether toxins would fall under that language or not?

A. No. That's not what I was indicating.

Q. Okay.

MR. BULLOCK: Give me just one moment, Judge.

THE COURT: Yes, sir.

(Discussion held off the record)

Q. *(BY MR. BULLOCK)* Just to return for a minute to MCLGs.

They are developed to ensure the protection of the entire population; correct?

A. Are you reading from a publication?

Q. No. I'm reading from the notes that my counsel gave me. And so -- I mean; is that true?

A. I mean, I don't know if that's the EPA language but --

Q. Well, would that be your interpretation of it?

A. I would go with the definition that the EPA used as to what an MCLG is.

Q. Okay. And are they based -- are those -- one last question in terms of this, or I think it's last.

Are MCLGs based on the available evidence of carcinogenic -- of carcinogenic or noncancer adverse health risks? Let me rephrase.

MCLGs are based upon the best evidence available as to both cancer and noncancer risks, aren't they?

A. They're used for cancer and noncancer risks, yes.

Q. And the best available evidence?

A. Yeah. The best available evidence, yeah.

THE COURT: We're back to the same old tree. Redirect.

MR. GREEN: Your Honor, just indulge me for one moment.

THE COURT: Yes. Let me see if I understand because we've gone around this same tree so many times and I'm not sure it's enlightened the fact-finder. I'm not sure anybody's really interested in enlightening the fact-finder here but that's my job.

MCLG is a goal; correct?

THE WITNESS: A goal.

THE COURT: It is not the regulatory standard; correct?

THE WITNESS: That's correct.

THE COURT: All right. Anything else you can do to clarify that for me? And as I understand -- before you answer that, as I understand, I think by going around that tree, you focused on the following.

That the MCLG is set by EPA at a level at which there is no known or anticipated adverse health effects. Is that accurate?

THE WITNESS: That's correct.

THE COURT: All right.

THE WITNESS: I think the exact language is no known or expected health effects, but that's right.

THE COURT: All right. Anything else you can do to clarify that distinction between an MCLG and what an MCL limit -- what are you calling it?

THE WITNESS: Maximum contaminant level. Maximum contaminant level is set as close to the MCLG as possible given cost and technology.

The MCLG, as Mr. Bullock indicated, could be based on cancer effects or noncancer effects. Noncancer effects are usually you're looking at doses in an animal and then -- it depends on how you arrive at it. There's -- and maybe this is going beyond what -- but you could use uncertainty factors to get there.

Usually an uncertainty factor is -- a thousand would not be uncommon between the level where you found an effect in an animal and where the MCLG is set.

They've more frequently have used what's called a benchmark dose, and that's maybe going beyond what the court -- but the benchmark dose takes --

THE COURT: Is that a third measure?

THE WITNESS: Well, no, it's not a third measure. It's a way to get to the MCLG.

THE COURT: All right.

THE WITNESS: It's part of the modeling effort to get to the MCLG.

But of course -- and the MCL is -- I mean, an MCL itself is a conservative value. I mean, we -- I mean, as I indicated, EPA is a public health agency. They don't set standards. The agency has -- you know, admits in its own information that these risk assessments are conservative.

THE COURT: Clearly they did with respect to arsenic; correct?

THE WITNESS: Of course. So --

THE COURT: But with respect to arsenic, is there a lower MCLG than that which was set as the MCL?

THE WITNESS: The MCLG is -- four

carcinogen is zero, they generally say zero. Because the theoretical assumption is that any exposure would produce some risk.

THE COURT: All right.

THE WITNESS: Now, again, that's a very conservative assumption. I mean, it's a -- it's a conservative assumption, you know, but that's what they do with a carcinogen.

With a noncarcinogen, they may look at something like hepatotoxic effects in an animal, and then they either use these uncertainty factors, which often are a thousand, to come up with a number; or they use a benchmark dose, which is a modeling approach to get there. That is also in connection with certainty factors to get down to this lower MCLG.

THE COURT: Okay. It's reflective then of that which we do not know as human beings? In other words, it's a very conservative --

THE WITNESS: It's a very conservative --

THE COURT: -- goal?

THE WITNESS: I mean, the MCL is conservative. I mean, we don't demonstrate risks at the MCL. I mean, we would be -- I mean, I would be upset if the public health agency was, you know,

setting MCLs right where we could see effects. I mean, the MCL itself is conservative.

THE COURT: So why set the MCLG if the MCL itself is conservative?

THE WITNESS: Well, the MCL is where they have -- I think it's to provide some scientific aspect to it so that you can kind of tell sort of where -- where you are in relation to the MCL. But --

THE COURT: Is it an aspirational goal?

THE WITNESS: An aspirational goal? I don't think that they would ever -- you know, I mean, they would never regulate, I think, to the MCLG. So it's --

THE COURT: But an aspirational goal would be reflective of that. You don't regulate to that which is aspirational but --

THE WITNESS: I guess you could describe it as such, those are aspirational, but not something that one would think of as realistic and ever trying to chief perhaps. But --

THE COURT: All right.

THE WITNESS: Just because the concentrations -- I mean, these -- you know, getting something to zero, for example, would be, I mean, extremely difficult.

THE COURT: All right. Now, you were obviously involved in the setting of the MCL with respect to arsenic; correct?

THE WITNESS: I was -- right.

THE COURT: I mean, you were the prime -- you were the point person; correct?

THE WITNESS: Well, what we did -- I mean, I was in research and development, and we were arguing for a lower -- you know, we did a risk assessment, okay? What we did was the risk assessment. The risk assessment then gets factored into the setting of the MCL. And so that's what we did was the --

THE COURT: So actually the arsenic MCL was set higher than you wished it to be set; is that correct?

THE WITNESS: No, not really. I mean, it was -- I mean, the old standard was 50 micrograms per liter. It was reduced to 10 micrograms per liter. But, I mean, we couldn't even demonstrate that there was actual risk at 50, but I think 10 was more in keeping with what -- where the rest of the world was, you know, with their arsenic drinking water standard.

THE COURT: Mr. Green.

MR. GREEN: Your Honor, one moment. I think, Your Honor, that we are -- I think in light of the colloquy that you had with the witness there, that we will have no additional questions to offer.

THE COURT: Very well. Thank you very much. You are excused.

Now, we have the issues regarding rebuttal. Motions typically would not be heard until after rebuttal, and that's how I see it in terms of procedure.

I think we need some time to focus on the specific parts of the record and the -- the reports to determine whether the anticipated -- or the testimony plaintiff wishes to present in rebuttal could have been fairly anticipated or not.

Do we have disclosures now with respect to No. 2 and No. 3 as to the subjects or proposed subjects of their testimony? As I understand it, there is not.

MR. BULLOCK: No. No, Your Honor. I gave you a brief summary of what I understand. But we --

THE COURT: When can we do that? Because obviously we can't really have a productive conversation on that until the defendants are apprised

of the subject matter of the proposed rebuttal.

MR. BULLOCK: I think we anticipate doing that in the morning with the other --

THE COURT: Well, but you're going to be hitting them cold, and I need specific references to expert reports, to testimony. Why don't you have that done by -- can you do it by six o'clock tonight?

MR. BULLOCK: I will sure turn the jets and do everything we can to do it.

THE COURT: Well, if you can't, I'll make it seven or eight o'clock tonight.

MR. BULLOCK: Well, how about seven o'clock? That would be helpful.

THE COURT: Okay. So by seven o'clock tonight, the plaintiff needs to disclose, as to proposed rebuttal witnesses 2 and 3, the subject matter, the proposed testimony, so we can have a meaningful discussion tomorrow morning.

Is there anything else we can accomplish here today?

MR. BULLOCK: Have the defendants rested?

MR. JORGENSEN: I was just going to say, Your Honor, I can't pass up on this sweet moment.

(Discussion held off the record)

MS. HILL: If it please the court, I have one remaining matter.

In combing through the record, we have realized that there are two places that perhaps the record could be more complete. On October 21st, '09, Volume 26, with Teena Gunter, we admitted an exhibit -- in fact, it was with direct, the state admitted an exhibit. It is Exhibit 1191-A and it is the videotape, the ODAFF training video.

And we propose for ease of reference in the record that we admit as a court exhibit a transcription of that video that has already been admitted. We have shared this with the state's counsel, and it's my understanding that they do not have any objection to our transcription of the Teena Gunter training video, Exhibit 1191.

So it's our intention to offer that transcription, which we prepared, as a court exhibit.

THE COURT: All right. And that's 1191 or 1191-A?

MS. HILL: It is 1191-A.

THE COURT: All right. Any objection?

MR. NANCE: Your Honor, Exhibit 1191-A was admitted, not for the truth of the matter, but for the knowledge that it conveyed to the growers. So if

the transcript is admitted for the same purpose, we have no objection.

THE COURT: Very well. It will be admitted for the same purpose. Exhibit 1191-A is admitted for purposes of notice.

MS. HILL: Would you like our transcript also to be Exhibit 1191-B, or shall we call that Court Exhibit 16?

THE COURT: All right. I misunderstood. So let's call that 1191-B.

MS. HILL: Okay. The transcript would be 1191-B then. 1191 is the video itself.

THE COURT: So what is A?

MS. HILL: 1191-A is the video itself. B would be the transcription that we are offering right now.

THE COURT: All right. That's what I understood.

All right. 1191-A is the video, 1191-B is the transcript, and 1191-B is hereby admitted.

Anything else?

MS. HILL: Yes. I have one more and I don't know that this one will be as easy.

On November 18th, '09, in the cross-examination of Dr. Olsen, we played an excerpt

of a training video. This is Volume 48, page 5523, and that discussion begins at line 15.

"The state has made a training video for farmers and ranchers that touches on riparian area management. And I'd like to play a little segment of this for you and have you watch it."

The discussion goes on, and on page 5524, line 9, the video clip was played. To be candid, there is not an exhibit number on the video clip. There was not a demonstrative to the video clip. But Dr. Olsen was confronted with a video clip that has words, and we would like those words that were not transcribed on the record to become part of the record.

We propose that those be made a court exhibit in and of themselves, a transcription of this short video clip that was shown to Dr. Olsen on November 18th, 2009. And I do believe that the state has an objection to that transcription.

THE COURT: All right. Before we go to the objection, let me go to the transcript so I will know what we're talking about. This is such a large docket sheet, as you know, it takes awhile to load.

(Discussion held off the record)

THE COURT: All right. Does anyone have

the actual docket number for this particular transcript for my notes? I understand it's on the screen. Does anyone have the docket number?

All right. 2762, it looks like. All right. That's page 5523, line 15.

Now, this is not the Gunter training video? Is the reference on line 15 not the Gunter training video?

MS. HILL: This is not the same as what we just previously admitted.

MR. TODD: I can tell what it was.

THE COURT: Well, let me see if the record is reflective.

All right. So it goes to cattle and cattle mineral feeders and the removal of foliage in riparian areas and erosion potentially causing nutrient pollution in surface waters?

MS. HILL: That is correct. And for further clarity of the record, it is the ODAFF training video.

The exhibit we just discussed, 1191-A and B, that was the Teena Gunter portion of that larger video. This is a separate portion of the ODAFF training video.

THE COURT: All right. Objection?

Mr. Nance.

MR. NANCE: Yes, Your Honor. The actual video that was used with Dr. Olsen was not admitted. In the record, the court already has the benefit of questions directed to Dr. Olsen about what was on the video.

Since the video itself was not admitted, we see no reason to admit the text of what was said on the video. You've got everything the defendants thought they needed at the time from Dr. Olsen himself. We just object to the admission of this text as a court exhibit.

THE COURT: The objection's sustained. There is an admission by the doctor in response to Mr. Green's question that the video reflected his client, the State of Oklahoma, telling farmers and ranchers that cattle and cattle mineral feeders and removal of foliage in riparian areas and erosion can cause nutrient pollution in surface waters. It wasn't timely offered. The objection's sustained.

Anything else?

MS. HILL: Nothing further. Thank you, Your Honor.

MR. NANCE: I think Mr. Jorgensen has something, Your Honor.

MR. JORGENSEN: Your Honor --

THE COURT: And you all are willing to give him this honor?

MR. HOPSON: He hasn't done anything else.

MR. JORGENSEN: Your Honor, before I do, it's my understanding of Rule 52 in jury trials, Your Honor, I'd like to -- this is being extraordinary hard, extraordinary hard.

Your Honor, it's my understanding of Rule 52 that after we rest the defendants can again move for judgment as a matter of law and the court can take that under consideration. I just want to make sure that's the court's understanding as well.

THE COURT: No. Well, let me take a look then at the specifics. It was my understanding that you can move again after rebuttal.

MR. JORGENSEN: That's correct, Your Honor. And that's my understanding as well. I'm sorry I was not clear.

THE COURT: You said after you rest.

MR. JORGENSEN: I'm sorry. I mean, after the case is over.

THE COURT: Okay.

MR. JORGENSEN: With that, Your Honor,

I'm very pleased to say that the Tyson defendants rest.

THE COURT: Very well.

MR. SANDERS: Your Honor, Cal-Maine Foods, Inc. rests also.

MR. MCDANIEL: Peterson Farms rests, Your Honor.

MR. ELROD: Simmons Foods rest, Your Honor.

MR. WEEKS: And George's rests as well, Your Honor.

MR. TUCKER: Your Honor, no more Honeysuckle White for you. Cargill rests.

THE COURT: Does that cover all the defendants?

THE COURT: Mr. George.

MR. GEORGE: Sorry. I felt left out, Your Honor.

THE COURT: Cobb-Vantress.

MR. GEORGE: Yeah. I guess it probably was covered, but Cobb-Vantress as a matter of formality does rest.

Your Honor, I appreciate that we're all going to do some preparation for tomorrow to try to be as efficient with the court's time in working through the

rebuttal issues.

Mr. Bullock, I believe, provided the court with a few references to pleadings or dockets that might be useful to the extent the court has any appetite to look at any further on this before tomorrow. And I have a few I'd like it add to that, if I may.

THE COURT: All right. Let me find my place in the notes so that I can put them all together.

MR. GEORGE: Your Honor, I'm impressed at the number of pages I saw you flip from one day as you were going through --

THE COURT: It remains to be seen how useful it is. Go ahead, Mr. George.

MR. GEORGE: It's admirable.

Your Honor, there has been a motion served by the state to serve expert rebuttal reports, not with respect to any of the witnesses that are at issue, but the briefing and the court's ruling on that might be relevant.

The state's motion was docket No. 1819, the defendants' opposition can be found at 1824, the state's reply at 1836, and then Your Honor's order at 1842.

There was also some briefing with regard to -- some dispute as to whether they were rebuttal or supplemental reports. But with regard to Cooke and Welch, they can be found, the state's motion, at 1826, the opposition at 1828, the reply at 1833, and Your Honor's order at 1839.

And then finally --

THE COURT: Now, is that going to be pertinent to the subject matter tomorrow? We're talking about Engel, Stevenson, and Wells.

MR. GEORGE: I believe it will only insofar as Your Honor provided a very well-recognized definition of rebuttal and what it constitutes and does not constitute in the order. I simply provided the citations to the briefs as being relevant to that order.

THE COURT: Well, it remains to be seen if that's correct, but that's certainly the understanding that I've always had.

MR. GEORGE: Okay. And then lastly, Your Honor, there was a motion for clarification filed by the defendants with respect to those two previous orders, and since I've cited them to you I want to cite the motions.

The motion by the defendants can be found at

docket 1839, the -- and 1840 -- I'm sorry. I botched that, Your Honor. The motion can be found at docket 1972, the opposition by the state at docket 1985, and then Your Honor's order at 1989. You did issue a clarification with respect to those two orders so I bring that to the court's attention as well.

THE COURT: All right. And so the two references by Mr. Bullock were to the court's two orders?

MR. GEORGE: I believe that's right, Your Honor.

THE COURT: All right. Mr. Bullock or Ms. Moll, has the plaintiff been able to find any other references that I can get started with? Because this promises to require a little bit of homework.

MR. BULLOCK: I know that they were talking about some and working on getting them pared down but I don't have them. Perhaps we could -- we'll try to supplement those this evening, though, if it will help the court in the morning and the defendants.

THE COURT: Well, in the meantime, I'm trying to work on these 52(c) motions. It's difficult to work on them while you're here in court.

But in any event, we will be adjourned until

nine o'clock tomorrow morning.

MR. BULLOCK: Okay. Thank you.

(The proceedings were recessed)

C E R T I F I C A T E

I, Brian P. Neil, a Certified Court Reporter for the Eastern District of Oklahoma, do hereby certify that the foregoing is a true and accurate transcription of my stenographic notes and is a true record of the proceedings held in above-captioned case.

I further certify that I am not employed by or related to any party to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

In witness whereof, I have hereunto set my hand this 13th day of January 2010.

s/ Brian P. Neil

Brian P. Neil, CSR-RPR, CRR, RMR
United States Court Reporter